# □ ATN NVSG1
# □ ATN NVSG2IA

## NIGHT VISION RIFLESCOPE

## *u s e r `s  g u i d e*

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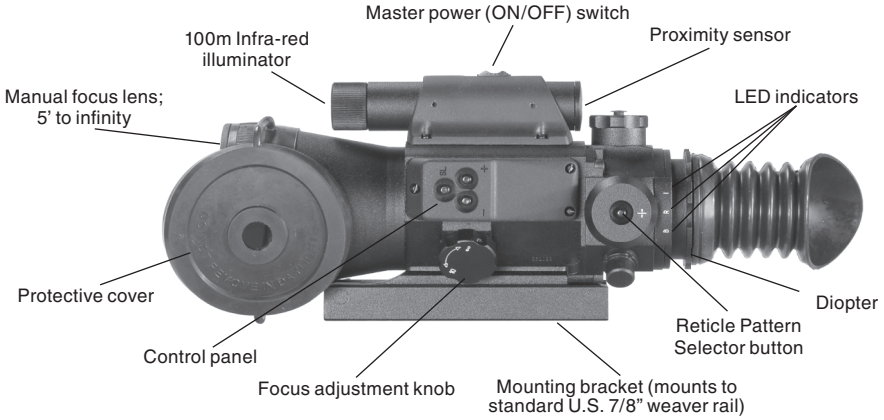
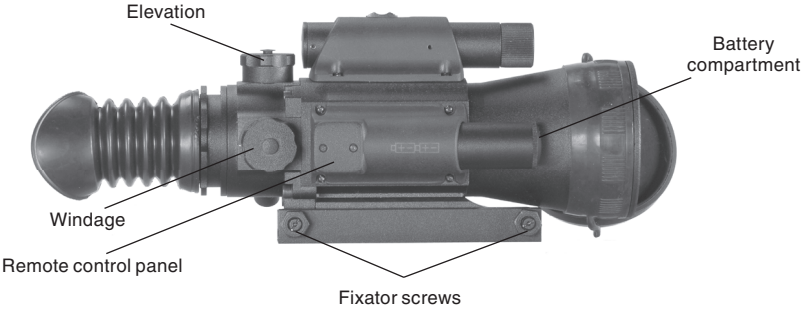
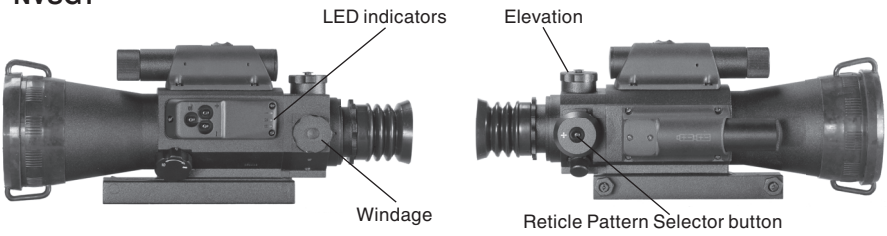
**AMERICAN TECHNOLOGIES NETWORK CORP.**

## NVSG2IA



## NVSG1

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# APPLICATION

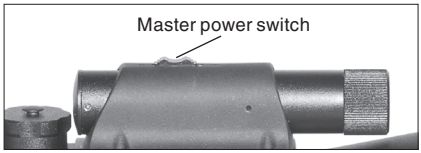
The NVSG1/NVSG2IA night vision weapon scope is a complex computerized system for the observation of objects at low light levels. Containing an onboard computer these scopes are some of the most advanced night vision weapon scopes in the world.

The NVSG1/NVSG2IA consists of the objective lens assembly, ocular lens assembly and the body. The body contains the image intensifier tube assembly with the integrated high voltage power source. The body also houses the electronics for the reticle, the computer console for the “Smart Technology” as well as the battery compartment. The 100M infra-red illuminator is located on the top of the unit.

The objective lens protective cover is designed to protect the lens from scratches and abrasions. This cover also protects the image intensifier tube from exposure to daylight or other bright light sources. The protective cover acts as a daylight filter, note the hole in the center of the lens cap.

## MASTER POWER SWITCH

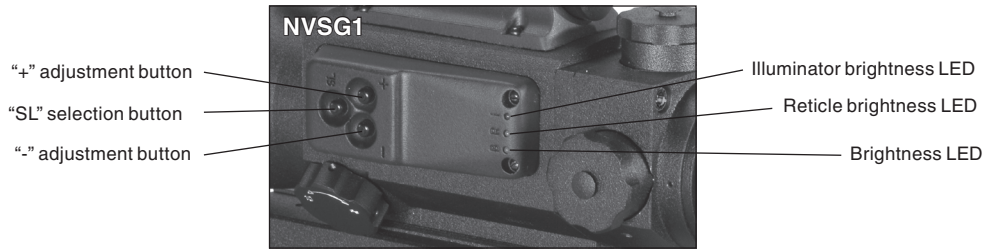
The Master ON/OFF switch is to be found on top of the NVSG1/NVSG2IA. Once the scope’s master power is switched on you can adjust the scope using the buttons on the control panel.

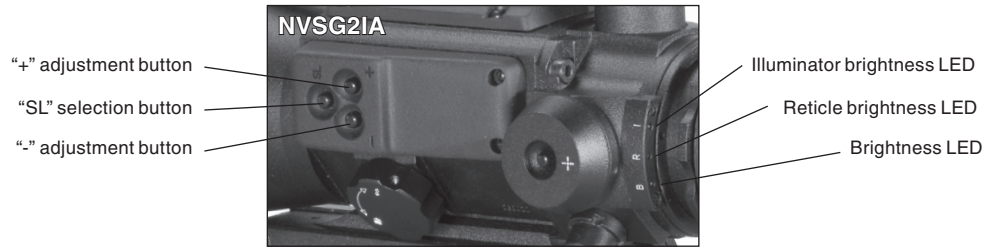



## CONTROL PANEL

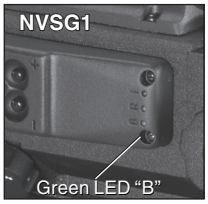
The control panel with the cluster of three buttons on it can be found on the left side of the NVSG1/NVSG2IA. ”SL” button acts as a three-way selection toggle. By pressing it once you will see one of three colored diodes located on the rear side of the scope light up. Make sure to keep both eyes open; your right eye is expected to aim through the scope so that your left eye perceives the changes on the rear side of the control box. “+” and “-” buttons are used to correspondingly increase or decrease adjustments for a chosen function.

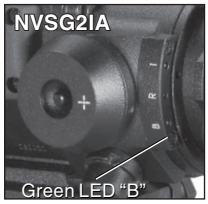
The three colored led diodes represent the scope function mode. “B” stands for brightness of the light intensifier tube, “R”- for reticle brightness, and “I”- for IR illuminator brightness.



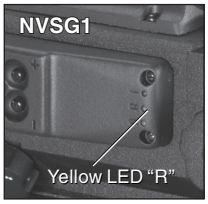
## IMAGE INTENSIFIER TUBE BRIGHTNESS ADJUSTMENT

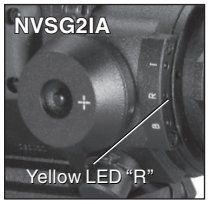



The green led “B” represents the light intensifier tube power ratio. Once this is lit you can adjust the brightness of the image intensifier with the “+” and “-” adjustment buttons.

## RETICLE BRIGHTNESS ADJUSTMENT

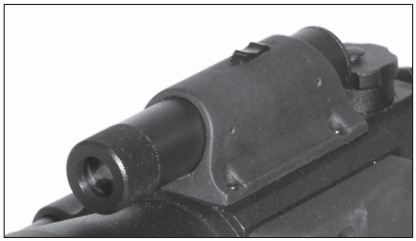



By pressing the SL button twice you switch to a yellow “R” diode next to the green one. The yellow diode represents the reticle’s brightness. Adjustments could be easily seen if you look through the NVSG1/NVSG2IA while pressing “ +” /” -” adjustment buttons.

To adjust the brightness of the reticle or to turn it off use the control box buttons located on the side of the unit. Press and hold “+“ or ”-” adjustment buttons while the yellow diode is on and see brightness changes looking through the scope. After appropriate level of brightness has been set release the button.

## INFRA-RED ILLUMINATION

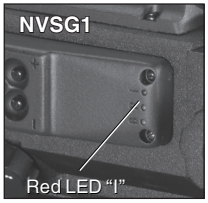


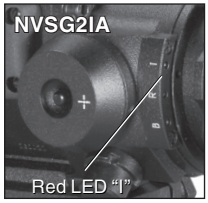
By pressing “SL” button three times you can switch to Red diode “I”. Red diode represents 100M infra-red illuminator’s brightness adjustment mode. Adjustments can be easily observed through the Aries scope while pressing ”+” /” -” adjustment buttons.

Infra-red illuminators, or IR illuminators, are common to night vision. The IR light greatly enhances to the performance of the NVSG1/NVSG2IA while remaining almost totally invisible to the unaided eye.

Power up the scope in a dark environment. Find an object and examine it with IR off, then on. You could observe illumination difference. It is important to remember that the IR illuminator is simply an infra-red light source and like any light source it may loose its effectiveness over long distances.

To change the field of coverage from the IR illuminator, focus the beam by turning IR illuminator lens to slightly alter the beam width.



## SLEEP MODE

One of the greatest new features that your Smart scope has is the SLEEP mode. This feature has been designed to considerably extend the period of scope's functioning, to set the scope to memorize your initial settings and endure battery's life (by settings we mean only digital settings which include brightness of the tube, brightness of the reticle, and magnitude of the IR.) Here is a description as to now the sleep mode functions:

The scope will automatically shut down if it does not sense any activity (i.e. pressing any of the buttons or simply moving the scope back and forth away from your face) for 20 minutes. When activating the sleep mode the scope will first warn you by turning off the reticle for 10 seconds. If you intend to keep using the scope simply touch any key and the scope will reactivate.

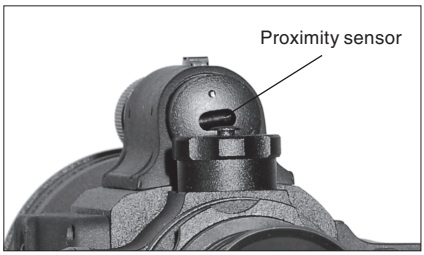
One of the reasons for the SLEEP mode being programmed into your scope is to keep the image intensifier tube and batteries safe in case you forget to turn your unit off. If you notice that the reticle turned off after 20 minutes just push the SL button and the scope will return to its previous settings.

To put your scope in the "SLEEP" mode any time, just push the SL button and "-" simultaneously. Push SL to return to previous settings and the SMART scope will remember them. This feature will come very handy, if you are waiting for game to come: you can prepare all of the settings, place the unit in SLEEP mode and activate it precisely when you need it. To disable the proximity sensor press SL and "+" simultaneously. In order to turn the proximity sensor back on, press SL and "+" simultaneously again.

***NOTE:*** *The scope is capable of running in SLEEP mode for more than 10 (ten) days and is ready for use at any moment. Remember, you don't have to turn the unit off while you are using it "Smart" sight remembers all the settings). Use the master ON/OFF switch only to store the scope.*

## PROXIMITY SENSOR

If you turn the proximity sensor on it will activate the scope when brought to your eye. The proximity sensor disables the scope when you take it away from your face. This feature has been introduced to prolong the life of the tube and the battery.




To turn the proximity sensor on press SL and + at the same time.

To disable the proximity sensor press SL and + at the same time again.

***NOTE:*** *Proximity sensor would not turn on automatically after master power has been switched on.*

# FOCUSING

To focus the NVSG1/NVSG2IA you need to adjust the diopter first. Simply turn the diopter clockwise until it stops. Then concentrate on any object and slowly turn the diopter back counter clockwise until the grain in the image is sharp.

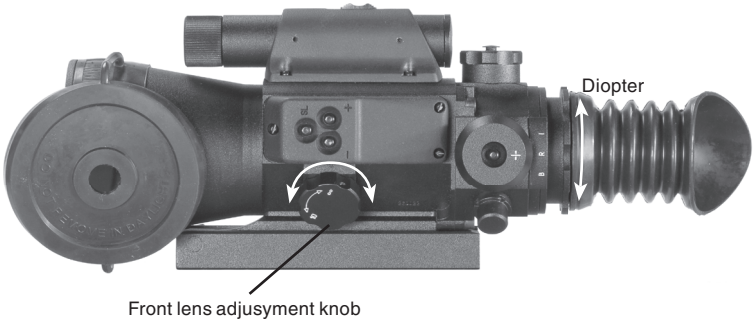
When you are under low-light conditions and the daylight filter is off you may focus the front lens for the image to be sharp. The diopter is not to be adjusted.

***NOTE:*** *The front lens should be readjusted for viewing objects at different distances.*

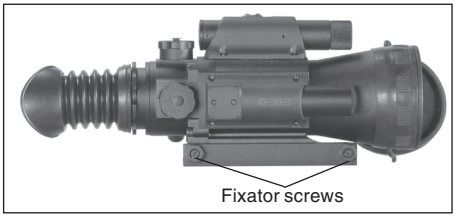
You scope has ability to focus either long range or short.

Next, focus the front lens by rotating the knob until the image and the grain are both sharp. When you are in the low-light conditions and the daylight filter is off you may focus the front lens to receive a sharp image, the diopter should not be adjusted.

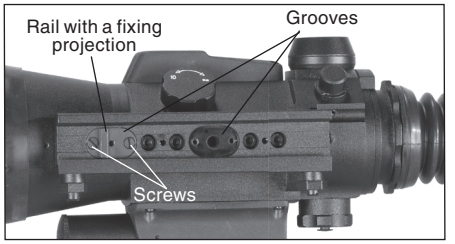
***NOTE:****To remove the front lens to clean, you must unlock the above set screw.*




# MOUNTING




The ATN Night Vision Riflescopes Mounting System allows to change the position of the riflescope flexibly on the weapon in relation to a shooter in combination with the fixed positions already available on the weaver rail. For this purpose in the base of the mounting bracket there is a rail with a fixing projection. There are three grooves in the mounting bracket for mounting this rail. Besides it is possible to change the position of the riflescope additionally by 1/3 of inch. For doing this one needs to about-face the rail.



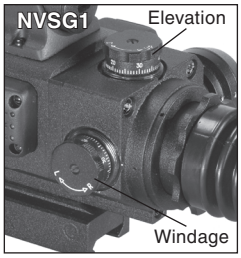

To change the position of the riflescope on the weaver rail additionally follow the steps mentioned below:

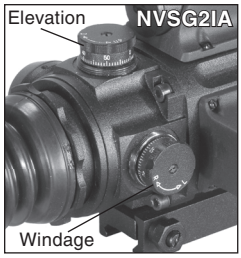
1. Unscrew the two screws, which attach the rail to the mounting bracket.
2. Take the rail out of the groove.
3. About-face the rail in case of necessity.
4. Place the rail into another groove.
5. Fix the rail with the two screws.

**NOTE:** *If the rail is not taken out easily, screw up tight one of screws into the threaded aperture in the middle of a fixing projection of the rail. Continue rotation of the screw. Thus the screw will push out a rail from a groove.*

## WINDAGE AND ELEVATION

The vertical and horizontal adjustments for the scopecan be achieved by turning the elevation and windage adjustment mechanisms (remove dust caps first).Each click equals to 1/8 inch at 100 yards. Do not use force having reached the maximum of rotation.



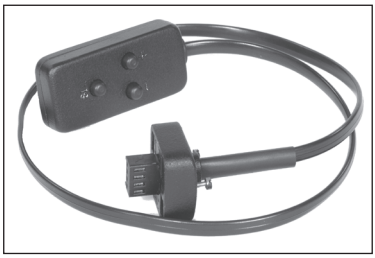

## USING THE REMOTE CONTROL

Below the control panel you can find the panel with two screws to fix NVSG1/NVSG2IA.

To plug in the remote control, remove the screws and the small panel to disclose the inlet.

The three remote control buttons' function similarly to control panel buttons. Once the remote control is plugged in, you may use both panels to adjust the scope.

The remote control can be attached to the weapon of your choice through whatever means best suiting your shooting style and grip. We suggest an elastic Velcro® loop fastener similar to the trigger switches found on the weapon.

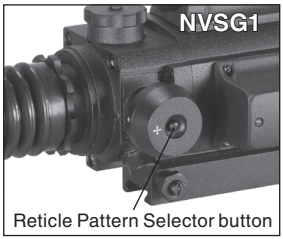


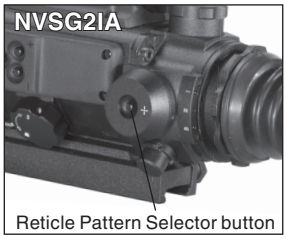
## RETICLE PATTERNS

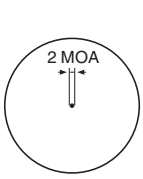
The NVSG1/NVSG2IA scope comes with five reticle patterns:

- Dot
- Post
- Post with Dot
- Open Cross Hair
- Cross Hair

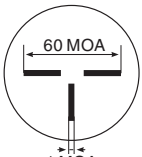
You can choose your preferred pattern by pushing the Reticle Pattern Selector button.



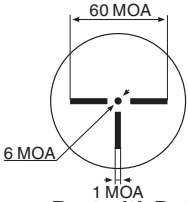



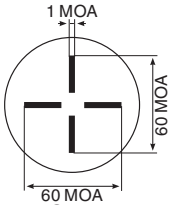

**Dot**



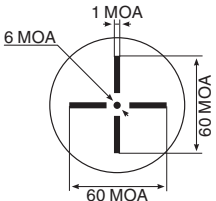

**Post**




**Post with Dot**




**Open Cross Hair**




**Cross Hair**

# PREPARATION FOR OPERATION

Before getting started make sure to follow these steps:

- Take the scope out of the case.
- Insert the batteries into their housing with the polarity order shown on the main body of the unit.
- Switch on your NVSG1/NVSG2IA scope by the master power switch make sure the protective lens cover is still attached to the lens.
- We expect your right eye to aim through the scope. Keep both of your eyes open so you are able to see the color-coded LEDs with your left eye.
- In order to assure the proper functioning of the proximity sensor make certain that the protective glass surface of the sensor is always clean.
- When the scope is first powered up the initial settings are:
  - Image intensifier tube brightness -100%
  - Reticle brightness -100%
  - Illuminator brightness -100%.
- Observe the scene and adjust the diopter for optimal image clarity.
- You may now enter the dark environment or simply shut the lights off in order to darken the room.
- Remove the lens cap/daylight filter.
- Observe the scene and adjust the front lens for ideal focus.
- Adjust the digital features as needed.
- To increase the battery life the LED diodes go off after 10 seconds.
- You will need to focus for different distances.
- Take your time to learn about your “Smart” scope. It will take practice to properly use this device. As you use this scope you will be able to improve your speed of focusing, as well as sharpness of image.

# CLEANING THE EYEPIECE

You may need to clean the eyepiece of the riflescope from time to time in order to guarantee top performance. When you receive your riflescope you should check for dust on the eyepiece of the unit.

You can remove the eyepiece. For cleaning unscrew the eyepiece counter-clockwise to remove it.

***CAUTION:*** *Use only Photographic lens cleaning tissue on these surfaces. Be careful not to scratch or smudge any of these surfaces. When using compressed air to blow dust away, make sure to avoid inverting the can while spraying. This can cause frozen propellant to exit the can, which can cause serious problems with the glass and phosphor screen.*

# WARNINGS AND CAUTIONS

- Always remember to turn off the NVSG1/NVSG2IA when it is not in use. If you do not plan on using your aries scope for a period of more than 10 days, you should remove the batteries.
- Keep lens cap/daylight filter on when not in use.
- Avoid contact with dust, steam, and gas.
- The NVSG1/NVSG2IA is not harmful to the user or the environment.
- Do not disassemble except to clean the front lens and the eyepiece: it will void your warranty.
- Evaluate the scopes function by looking through it in a lit environment with the daylight filter lens cap on. Never use in daylight without the daylight filter lens cap on. Do not surpass ten minutes of testing.

- Never point the NVSG1/NVSG2IA at a bright light source. If the scope shuts off automatically after directing it at a bright light source, turn the unit off and wait 1 - 2 minutes before turning the unit back on.
- Adverse atmospheric conditions such as fog, smog, or haze and a lack of ambient light (moon or starlight) may diminish the effective viewing distance. All technical data for this unit was compiled in a controlled environment.
- If you use the rubber eyecaps for a long period of time, you may suffer skin inflammation. If you develop any symptoms, consult a doctor immediately.

# TROUBLESHOOTING

**Q:** Flashes, flickers, or clicking occur while operating

**S:** If it occurs within the first five minutes of inserting new batteries, it is normal and the device will resume normal operation soon thereafter. If it occurs for more than 10 minutes, contact your dealer or other authorized service representative for service instructions.

**Q:** Dark spots on screen.

**S:** These are cosmetic blemishes in the intensifier tube. They are a by-product of the process of manufacturing night vision tubes. They will not impede your viewing ability.

Q: Image not clear.

**S:** Adjust focus ring. If problem persists, increase viewing distance

**Q:** Fixed-pattern noise in a honeycomb shape.

**S:** Usually a cosmetic blemish characterized by a faint honeycomb-type pattern. This usually occurs when viewing very bright lights. Adjust the potentiometer, to reduce brightness.

**Q:** A pattern of dark thin lines which look like chicken wire.

**S:** Turn on illuminator, if purchased. If illuminator doesn't brighten image, replace batteries. If problem persists, contact ATN for service instructions.

# FEATURES

- Digital "Smart technology"
- Total darkness technology
- Internally adjustable lit reticle for windage and elevation
- Automatic brightness control
- Range finder
- Built in 100m IR illuminator
- Mounts to standard U.S. weaver
- Recoil & flash resistant intensifiertube
- Auto "Sleep" mode
- Video/35mm camera adaptable
- Superb multi-coated 6 element lens system
- Manufactured exclusively by ATN
- Two year warranty

# SPECIFICATION

| | |
|---|---|
| Total Darkness Technology | Standard |
| “Smart” Technology | Standard |
| Magnification | 4x (NVSG1)<br>5x (NVSG2IA) |
| Intensifier Tube | 1st Gen. (NVSG1)<br>2rd Gen.+ (NVSG2IA) |
| Detection Range | 175 m (NVSG1)<br>250 m (NVSG2IA) |
| Recognition Range | 120 m (NVSG1)<br>175 m (NVSG2IA) |
| Lens System | 6 element 90 mm; F1.7 |
| Field of View | 12° |
| Diopter Adjustment | ±5 |
| Resolution | 40 lp/mm (NVSG1)<br>36-45 lp/mm (NVSG2IA) |
| Range of Focus | 1.8 m to infinity |
| Reticle | Red on green rangefinder 5 reticle patterns |
| Controls | Digital and remote |
| Power Supply | Two 3 volt lithium |
| Battery Life | 10-20 hours |
| Dimensions | 300 mm x 115 mm x 112 mm<br>9.8” x 4.3” x 4,2” |
| Operating Temperatures | -40°C to +40°C |
| Weight | 1.6 kg/3.5 lb |

# 2 YEAR PRODUCT WARRANTY

This product is guaranteed to be free from manufacturing defects in material and workmanship under normal use for a period of 2 (two) years from the date of purchase. In the event a defect that is covered by the foregoing warranty occurs during the applicable period stated above, ATN, at its option, will either repair or replace the product, and such action on the part of ATN shall be the full extent of ATN's liability, and the Customer's sole and exclusive remedy. This warranty does not cover a product (a) used in other than its normal and customary manner; (b) subjected to misuse; (c) subjected to alterations, modifications or repairs by the Customer of by any party other than ATN without prior written consent of ATN; (d) special order or "close-out" merchandise or merchandise sold "as-is" by either ATN or the ATN dealer; or (e) merchandise that has been discontinued by the manufacturer and either parts or replacement units are not available due to reasons beyond the control of ATN. ATN shall not be responsible for any defects or damage that in ATN's opinion is a result from the mishandling, abuse, misuse, improper storage or improper operation, including use in conjunction with equipment which is electrically or mechanically incompatible with or of inferior quality to the product, as well as failure to maintain the environmental conditions specified by the manufacturer. **CUSTOMER IS HEREBY NOTIFIED THAT OPERATION OF THE EQUIPMENT DURING DAYLIGHT HOURS OR UNDER ANY EXCESSIVE LIGHT CONDITIONS MAY PERMANENTLY DAMAGE THE INTERNAL COMPONENTS OF THE UNIT AND SAID DAMAGE WILL NOT BE COVERED UNDER THIS WARRANTY.** This warranty is extended only to the original purchaser. Any breach of this warranty shall be waived unless the customer notifies ATN at the address noted below within the applicable warranty period.

The customer understands and agrees that except for the foregoing warranty, no other warranties written or oral, statutory, expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose, shall apply to the product. All such implied warranties are hereby and expressly disclaimed.

## LIMITATION OF LIABILITY

ATN will not be liable for any claims, actions, suits, proceedings, costs, expenses, damages or liabilities arising out of the use of this product. Operation and use of the product are the sole responsibility of the Customer. ATN's sole undertaking is limited to providing the products and services outlined herein in accordance with the terms and conditions of this Agreement. The provision of products sold and services performed by ATN to the Customer shall not be interpreted, construed, or regarded, either expressly or implied, as being for the benefit of or creating any obligation toward any third party of legal entity outside ATN and the Customer; ATN's obligations under this Agreement extend solely to the Customer. **ATN's liability hereunder for damages, regardless of the form or action, shall not exceed the fees or other charges paid to ATN by the customer or customer's dealer. ATN shall not, in any event, be liable for special, indirect, incidental, or consequential damages, including, but not limited to, lost income, lost revenue, or lost profit, whether such damages were foreseeable or not at the time of purchase, and whether or not such damages arise out of a breach of warranty, a breach of agreement, negligence, strict liability or any other theory of liability.**

## PRODUCT WARRANTY REGISTRATION

In order to validate the warranty on your product, ATN must receive a completed Product Warranty Registration Card for each unit or complete warranty registration on our website at www.atncorp.com. Please complete the included form and immediately mail it to our Service Center: ATN Corporation, 1341 San Mateo Avenue, South San Francisco, CA 94080.

## OBTAINING WARRANTY SERVICE

To obtain warranty service on your unit, End-user must notify ATN service department by calling **800-910-2862** or **650-989-5100** or via e-mail service@atncorp.com to receive a Return Merchandise Authorization number (RMA). When returning please take or send the product, postage paid, with a copy of your sales receipt to our service center, ATN Corporation at the address noted above. All merchandise must be fully insured with the correct postage; ATN will not be responsible for improper postage or, missing or damaged merchandise during shipment. When sending product back, please clearly mark the RMA# on the outside of the shipping box. Please include a letter that indicates your RMA#, Name, Return Address, reason for service return, Contact information such as valid telephone numbers and/or e-mail address and proof of purchases that will help us to establish the valid start date of the warranty. **Product merchandise returns that do not have an RMA listed may be refused or a significant delay in processing may occur.** Estimated Warranty service time is 10-20 business days. End-user/customer is responsible for postage to ATN for warranty service. ATN will cover return postage/shipping after warranty repair to end-user/customer only if product is covered by aforementioned warranty. ATN will return product after warranty service by domestic UPS ground and/or domestic mail. Any other requested or required shipping method the postage/shipping fee will be the responsibility of the end-user/customer.

For customer service and technical support, please contact
American Technologies Network Corp.

**North American Office**

1341 San Mateo Avenue, South San Francisco, CA 94080

phone: 800-910-2862, 650-989-5100; fax: 650-875-0129

**European Office**

phone: 44(0)870-0111286, fax: 44(0) 845-3349142

The following countries can use our
**toll free number 00 800 9102-8620**

Austria, France, Germany, Holland, Italy, Spain, Sweden, Switzerland

**www.atncorp.com**

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